

## ABSTRACT OF THE INVENTION

The program to be executed is compiled by translating it into native instructions of the instruction-set architecture of the processor system, organizing the instructions deriving from the translation of the program into respective bundles in an order of successive bundles, each bundle grouping together instructions adapted to be executed in parallel by the processor system. The bundles of instructions are ordered into respective sub-bundles, said sub-bundles identifying a first set of instructions, which *must* be executed before the instructions belonging to the next bundle of said order, and a second set of instructions, which *can* be executed both before and in parallel with respect to the instructions belonging to said subsequent bundle of said order. There is defined a sequence of execution of the instructions in successive operating cycles of the processor system, assigning each sub-bundle to an operating cycle, thus preventing simultaneous assignment to the same operating cycle of two sub-bundles belonging to the first set of two successive bundles. The instructions of the sequence may be executed by the various processors of the system in conditions of binary compatibility.